

60,130-1815; 03MRA0139

IN THE CLAIMS

1. (Currently Amended) A cutting machine comprising:
a lead screw assembly having a tool holder;
first and second motors; ~~and~~
a coupling assembly interconnecting the first and second motors to the lead screw assembly for selectively transmitting rotational drive from the first and second motors to the lead screw assembly, the coupling assembly having a first engaged condition rotationally coupling the first motor to the lead screw assembly and driving the tool holder to rotate in a first direction, and a second engaged condition rotationally coupling the second motor to the lead screw assembly and driving the tool holder to rotate in a second direction opposite the first direction; and
the coupling assembly including first and second clutch/brakes respectively interconnected between the first and second motors, and the lead screw assembly.
2. (Previously Presented) The cutting machine according to claim 1, wherein the first and second motors each include a rotational axis with the rotational axes parallel to one another.
3. (Previously Presented) The cutting machine according to claim 2, wherein the rotational axes are parallel to an axis of rotation of the tool holder.
4. (Cancelled)

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5. (Currently Amended) The cutting machine according to claim 1, ~~4~~, wherein the coupling assembly includes first and second drive sprockets respectively receiving rotational drive from the first and second clutch/brakes.

6. (Original) The cutting machine according to claim 5, wherein the coupling assembly includes first and second driven sprockets supported on the lead screw assembly respectively coupled to the first and second drive sprockets by first and second belts.

7. (Currently Amended) The cutting machine according to claim 1, ~~4~~, wherein each of the first and second clutch/brakes includes a double-acting piston movable between a clutch position and a brake position.

8. (Previously Presented) The cutting machine according to claim 1, wherein the first and second motors are simultaneously rotationally driven while the tool holder is moving in both the first and second directions.

9. (Currently Amended) The cutting machine according to claim 8, wherein ~~the coupling assembly includes at least one clutch/brake, and a controller commands the at least one of the~~ first and second clutch/brakes to obtain at least one of the first and second engaged conditions.

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10. (Currently Amended) The cutting machine according to claim 9, wherein lead screw assembly position sensors are connected to the controller providing lead screw assembly position information, the controller commanding the at least one of the first and second clutch/brakes in response to the lead screw assembly position information.

11. (Currently Amended) A cutting process comprising the steps of:

- a) simultaneously generating rotational drive from first and second drive motors;
- b) manipulating a coupling assembly and transferring rotational drive from the first drive motor to a tool holder while step a) occurs;
- c) moving the tool holder in a first direction;
- d) manipulating the coupling assembly and terminating transfer of rotational drive from the first drive motor to the tool holder and transferring rotational drive from the second drive motor to the tool holder while step a) continues; ~~and~~
- e) moving the tool holder in a second direction opposite the first direction;
- f) arranging a lead screw between the tool holder and the first and second drive motors; and
- g) arranging first and second clutch/brakes respectively between the first and second drive motors and the lead screw.

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12. (Original) The process according to claim 11, wherein step b) is performed in response to detecting a part to be machined.

13. (Previously Presented) The process according to claim 12, wherein step c) moves the tool holder toward the part to be machined.

14. (Original) The process according to claim 13, wherein step d) is performed in response to detecting a forward stroke position.

15. (Original) The process according to claim 12, wherein step b) is performed in response to detecting a rearward stroke position.

16. (Previously Presented) The process according to claim 11, wherein step d) is performed in response to detecting an overrun stroke position.

17.-18. (Cancelled)

19. (Currently Amended) The process according to claim ~~11, 18,~~ wherein steps b) and d) are performed by actuating a double acting piston in at least one of the first and second clutch/brakes.

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20. (Previously Presented) The process according to claim 11, wherein a cutting tool driven by the tool holder rotates in a first direction during step b) and rotates in an opposed second direction during step d) such that the cutting tool cuts threads in a work piece during step b), and is removed from the work piece during step d).

21. (Previously Presented) A cutting machine comprising:

a lead screw assembly having a tool holder;

first and second motors; and

a coupling assembly interconnecting the first and second motors to the lead screw assembly for selectively transmitting rotational drive from the first and second motors to the lead screw assembly, the coupling assembly having a first engaged condition rotationally coupling the first motor to the lead screw assembly and for moving the tool holder in a first direction, and a second engaged condition rotationally coupling the second motor to the lead screw assembly and moving the tool holder in a second direction opposite the first direction, the coupling assembly including at least one clutch associated with each of the first and second motors to allow selected transmission of rotational drive from the first and second motors to the lead screw assembly by selectively connecting or disconnecting the at least one clutch.

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22. (Previously Presented) The cutting machine according to claim 21, wherein the at least one clutch includes clutch/brake assemblies respectively interconnected between the first and second motors, and the lead screw assembly.